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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,659	10/29/2001	Dave Good	1-22813	9889

4859 7590 01/15/2003

MACMILLAN SOBANSKI & TODD, LLC  
ONE MARITIME PLAZA FOURTH FLOOR  
720 WATER STREET  
TOLEDO, OH 43604-1619

EXAMINER

KERNS, KEVIN P

ART UNIT PAPER NUMBER

1725

DATE MAILED: 01/15/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/045,659	GOOD ET AL.
	Examiner	Art Unit
	Kevin P. Kerns	1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 3,5 and 9 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1,2,4 and 6-8 is/are rejected.
- 7) Claim(s) 2 is/are objected to.
- 8) Claim(s) 1-9 are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 29 October 2001 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All
  - b) Some \*
  - c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____.
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> .	6) <input type="checkbox"/> Other: _____.

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## DETAILED ACTION

## Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1, 2, 4, and 6-8, drawn to a method for filling a mold, classified in class 164, subclass 457.

II. Claims 3, 5, and 9, drawn to a vehicle component, classified in class 301, subclass 5.1.

2. The inventions are distinct, each from the other because of the following reasons: Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the process of Invention I can be used to make products other than that of Invention II. For example, the process of Invention I can be used to make metal castings of a wide variety of shapes and sizes for use other than for a vehicle component, such as metal plates and dies.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

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During a telephone conversation with Doug Pavelko on December 19, 2007, a provisional election was made without traverse to prosecute Invention II, claims 1, 2, and 6-8. Affirmation of this election must be made by applicant in replying to this Office action. Claims 3, 5, and 9 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

6. **Drawings**  
Figure 2 (also Figure 12) should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. Note: In the specification, on page 4 (lines 2-3) and page 5 (lines 3-5 and 8-10), it is noted that Figure 1 is referred to in light of both the present invention (page 5, lines 3-5) and also as conventional in the art (page 4, lines 2-3, and page 5, lines 8-10).

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7. The drawings are objected to because "31" of Figure 1 does not have any lines/arrows that directly denote its particular structure ("31" is referred to in the specification as a door or access opening). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Specification***

8. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: METHOD FOR FILLING A MOLD.

9. The disclosure is objected to because of the following informalities: on page 7, 7<sup>th</sup> and 8<sup>th</sup> lines, all 3 instances of "24" should be changed to "28". On page 13, line 22, "272" should be changed to "172". On page 20, line 21, it is believed that "time t" should be changed to "time t<sub>2</sub>". Appropriate correction is required.

***Claim Objections***

10. Claim 2 is objected to because of the following informalities: the term "a" after "comprising" should either be deleted or replaced with "the step of". Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1, 2, 4, and 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Balevski et al. (US 3,961,662).

Balevski et al. disclose a method for controlling the rate of filling of casting molds, in which a countergravity casting apparatus contains a conduit in fluid communication between a molten metal furnace and a mold cavity, and the filling takes place under the action of gas pressure (abstract; column 1, lines 5-8 and 59-65; and Figure 3). The apparatus includes manometers 3,4 (pressure transducers) that emit signals to a differentiating unit 6 and comparing unit 7, to be transmitted to a (pressure) control unit 10 (abstract; column 2, lines 33-38; column 3, lines 28-44; column 4, lines 1-12; and Figure 3). The process includes a predetermined program (controller) that controls the filling rate (based upon the variation of pressures P1 and P2 to obtain the desired filling profile), in which the filling rate decelerates from a 1<sup>st</sup> rate to a 2<sup>nd</sup> rate that does not exceed the 1<sup>st</sup> rate over the incremental time interval (the time interval before t1, as compared to the time interval between t1 and t2), as shown in Figure 1 (column 2, lines 4-17 and 39-68; column 3, lines 1-20; and Figure 1).

13. Claims 1, 2, 4, and 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishida et al. (US 4,741,381).

Nishida et al. disclose a method and apparatus for controlling pressure in a holding furnace (casting chamber) in a low pressure die-casting system, in which a tube from the furnace is in fluid communication with the mold cavity (abstract; column 1, lines 9-16; and Figures 1-3). The apparatus includes at least one pressure sensor 13,18 (transducer) and a microcomputer 10 (controller) that controls a desired pressurization pattern (changeable pressure upon addition of gas) as a function of time (abstract; column 1, lines 61-68; column 2, lines 1-25 and 56-68; column 3, lines 1-44; column 4, lines 5-56; column 6, lines 41-44; and Figures 1-5). The pressurization pattern shows a series of inflection points (effecting pressure/filling rate changes), such that the time interval before point J has a higher gas pressure, and thus a higher filling rate, than the time interval between point J and point J+1 (column 5, lines 32-68; column 6, lines 1-33; and Figure 4).

14. Claims 1, 2, 4, and 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsubayashi et al. (US 5,551,502).

Matsubayashi et al. disclose a pressurizing control method and system for low-pressure (countergravity) casting, in which the casting apparatus includes a melting furnace and a tube extending into a mold cavity for filling with molten metal, and further includes a pressure sensor 10 (transducer) and pressurizing control system 23 (controller) for adjusting the pressure of pressurized air through conduit 24 and

achieving a plurality of pressurizing patterns (abstract; column 1, lines 7-10; column 2, lines 60-67; column 3, lines 1-22; column 4, lines 10-16 and 57-61; column 5, lines 17-28; and Figure 2). Pressure correction and converting are calculated on the basis of one or more pressure differences, such that filling rates are adjusted, as the time interval between 0 and T1 has a more rapid filling rate (and has a more rapidly increasing pressure) than the subsequent slope between T1 and T2, decelerating and not exceeding the first rate (column 5, lines 35-67; column 6, lines 1-64; and Figures 3 and 4).

15. Claims 1, 2, 4, and 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by the applicants' admitted prior art (specification; and Figures 1 and 3).

The applicants' admitted prior art discloses a conventional countergravity casting apparatus with the following structures that are common to those disclosed in the (prior art) Kuhn et al. reference (US 5,215,141): a mold 12, a supply conduit 76 connecting the mold 12 to a crucible furnace 14 (casting chamber), a pressure transducer 52 (104 in Kuhn et al.), a pressure controller 54 (98 in Kuhn et al.), and a supply of molten metal 16 (specification; page 1, lines 12-24; page 5, lines 8-10; page 15, lines 8-9; and Figure 1). As shown in Figure 3 (prior art desired fill profile 112), the rate of pressure increase (and hence the filling rate), is reduced in the time interval spanning t1 and t2, as opposed to the time interval between t0 and t1, in which the 2<sup>nd</sup> filling rate decelerates and thus does not exceed the 1<sup>st</sup> filling rate (specification; page 10, 3<sup>rd</sup> line through page 15, 9<sup>th</sup> line; and Figure 3).

***Conclusion***

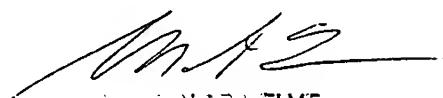
16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Py et al., Merrien et al., Kuhn et al., Ohnishi et al., Watanabe et al., Merrien, Kawai et al., Aupetit et al., Anami, and Minami et al. references are also cited to show related art.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin P. Kerns whose telephone number is (703) 305-3472. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (703) 308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-6078 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

KPK  
kpk  
January 4, 2003

  
KEVIN P. KERN  
EXAMINER